Exhibit B

MINTZ LEVIN

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Via Email (jnorton@nfllp.com) and First Class Mail

Jeffrey M. Norton, Esq.
Newman Ferrara LLP
1250 Broadway, 27th Floor
New York, NY 10001

Re: OvaScience, Inc. – Response to Shareholder Demand Letter

Dear Mr. Norton:

Mintz Levin has been retained to represent the Board of Directors (the "Board") of OvaScience, Inc. ("OvaScience") in connection with the claims asserted in your letter of April 4, 2017. For the reasons discussed below, the Board rejects your assertion that compensation paid to the Board in 2015 was "excessive," and accordingly declines to implement your client's demands.

As noted in your letter, non-employee director compensation in 2015 consisted of both cash and equity components. You argue that the combined cash and equity award is excessive because the award exceeds the median value for micro-cap companies in 2015. That analysis is flawed for several reasons.

First, OvaScience was not a micro-cap company in 2015. Accordingly, your comparison offers no insight into the reasonableness of non-employee director compensation awarded in 2015. The error is compounded by your inclusion of initial equity grants to newly elected non-employee directors. Backing these one-time payments out of the calculation yields an average much closer to the S&P 500 average you cite.

Second, the valuation metric used for SEC disclosure purposes (Black-Scholes) is not an appropriate metric for assessing the adequacy and fairness of compensation awards to non-employee directors of biotechnology corporations. A key driver of the Black-Scholes model is volatility. Given the extreme volatility of biotechnology corporations in general, and OvaScience in particular in 2014-2015, a Black-Scholes analysis produces "valuations" that bear little or no relationship to the actual fairness and adequacy of the compensation awarded. To address this disparity, it is a well-recognized practice for compensation consultants to perform a comparative peer-group analysis of annual equity grants as a percentage of fully diluted shares outstanding rather than a Black-Scholes analysis. In 2015, OvaScience engaged Pearl Meyer & Partners ("Pearl Meyer") as an independent compensation consultant to review its board compensation. Pearl Meyer performed a comparative peer group analysis and concluded that annual director cash compensation was aligned with the market median for OvasScience's peer

group and that equity compensation trailed the peer group as a percentage of fully diluted shares outstanding. As a consequence, Pearl Meyer recommended that OvaScience increase the annual non-employee director option grant to 12,000 options to improve the company's competitive positioning. The Board adopted Pearl Meyer's recommendation.

Finally, as disclosed in OvaScience's Schedule 14A, filed on April 18, 2016, none of the non-employee directors exercised any of the options granted in 2015. Those option awards now are significantly out of the money and have only a nominal current value. The net result is that the actual compensation realized by OvaScience's non-employee directors in 2015 trailed both the median value of annual compensation awarded to directors of micro-cap companies in 2015 and the compensation awarded to the Board's peer group directors by a significant margin.

Given the foregoing, your claim that the Board has somehow "wasted" corporate assets is legally and factually untenable. Commencing litigation would serve no purpose other than to needlessly divert corporate assets that otherwise could be used to further the company's efforts to enhance shareholder value.

Very truly yours,

John F. Sylvia

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